



New York State Statewide Wireless Network

Concerns Regarding Wave 4 Rebanding Order

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New York Statewide Wireless Network (SWN)

- \$2B Statewide Integrated Voice and Data Network
 - OpenSky TDMA Technology
 - All radios have P25 mode as well
 - VHF, 800/NPSPAC, 800/Old-Block, and 700 MHz Operations
 - Up to 75,000 users
 - More than 1200 transmitter sites





Why SWN?

- The SWN:
 - Enables first responders to communicate quickly and efficiently during emergency situations by achieving communications interoperability
 - Enhances emergency response capabilities for all New Yorkers
 - Modernizes and unifies the patchwork of existing obsolete and/or deteriorating emergency communications systems used today across New York
 - Reduces the potential for tower proliferation and saves money by creating a common statewide radio platform to meet emergency communications needs, and
 - Fosters collaboration among federal, state and local agencies in order to meet the needs of New Yorkers during times of crisis



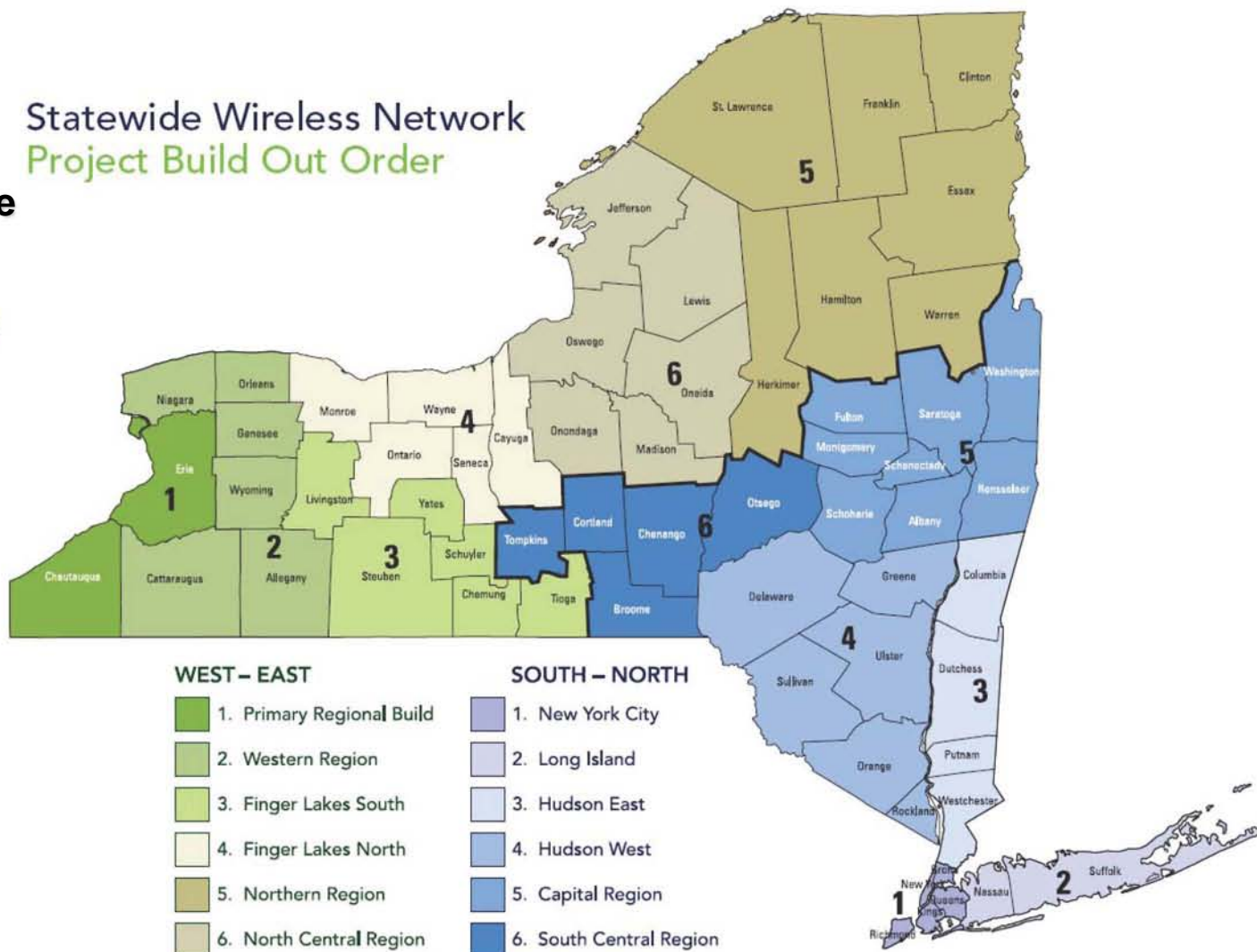


SWN Build Out Structure

Region 1 areas are constructed and undergoing acceptance testing

Construction of Region 2 areas will commence once Region 1 is accepted

Statewide Wireless Network Project Build Out Order





Main Concern with FCC Wave 4 Order

- 12.5 kHz channelization for all Old Block Channels
 - SWN would be giving up 25-kHz of spectrum unencumbered by adjacent channel considerations, for essentially 12.5 kHz of spectrum with adjacent channel encumbrances
 - This does not protect the availability of public safety channels in the areas that are most in need of such protection.
- This leads to Coverage, Capacity, and Planning issues



Coverage Issues

- Coverage
 - For many technologies, the stricter mask equates to coverage loss
 - Ref. TSB-88; 2-dB difference in sensitivity/CPC for EDACS and FM (looking at OpenSky right now)
 - Depending upon implementation, combiner issues can also arise, adding ~3dB additional receiver loss
- It is not realistic to expect that Nextel will take care of these issues
 - Even if they resolve the past issues, the cost of future deployments will be borne by PS alone
 - The way the allocation is proposed to be managed does not provide compatible facilities going forward
 - Border licensees become further disadvantaged, non-border issues not affected



Capacity Issues

- Right now SWN is using four slot TDMA technology to achieve five channels (four voice or data channels and one control channel), all from a single 25-kHz channel
 - In other words, we meet the 2020 spectrum efficiency requirement today
- In order to not lose operational capacity, we need to either retain the 25-kHz channelization, or receive (2)-12.5 kHz channels (for 2-slot TDMA) in return for a 25-kHz channel
- This is comparable facility issue, and should not be subject to RPC approval as specified in the FCC Order
 - We should not be asked to operate at four slots with less than a 25 kHz channel.





Planning Issues

- It is not implicitly stated in the Order, but it is implied that the Regional Planning Committees will now manage all channels below 809 MHz (including former Old Block allocations)
 - The planning and management of this spectrum should be made clear in the Order
 - There are responsibilities and implications that need to be understood
- This also leads to an issues of equivalent facilities, for example in Region 2
 - The RPC process will now encumber the 50 (or 100 12.5 kHz) old block channels, adding significant time delays to applications, modifications, etc
 - Spectrum actions that took days would now will take months or years to accomplish
 - Again, only in the border areas will the RPCs completely consume the Old Block spectrum

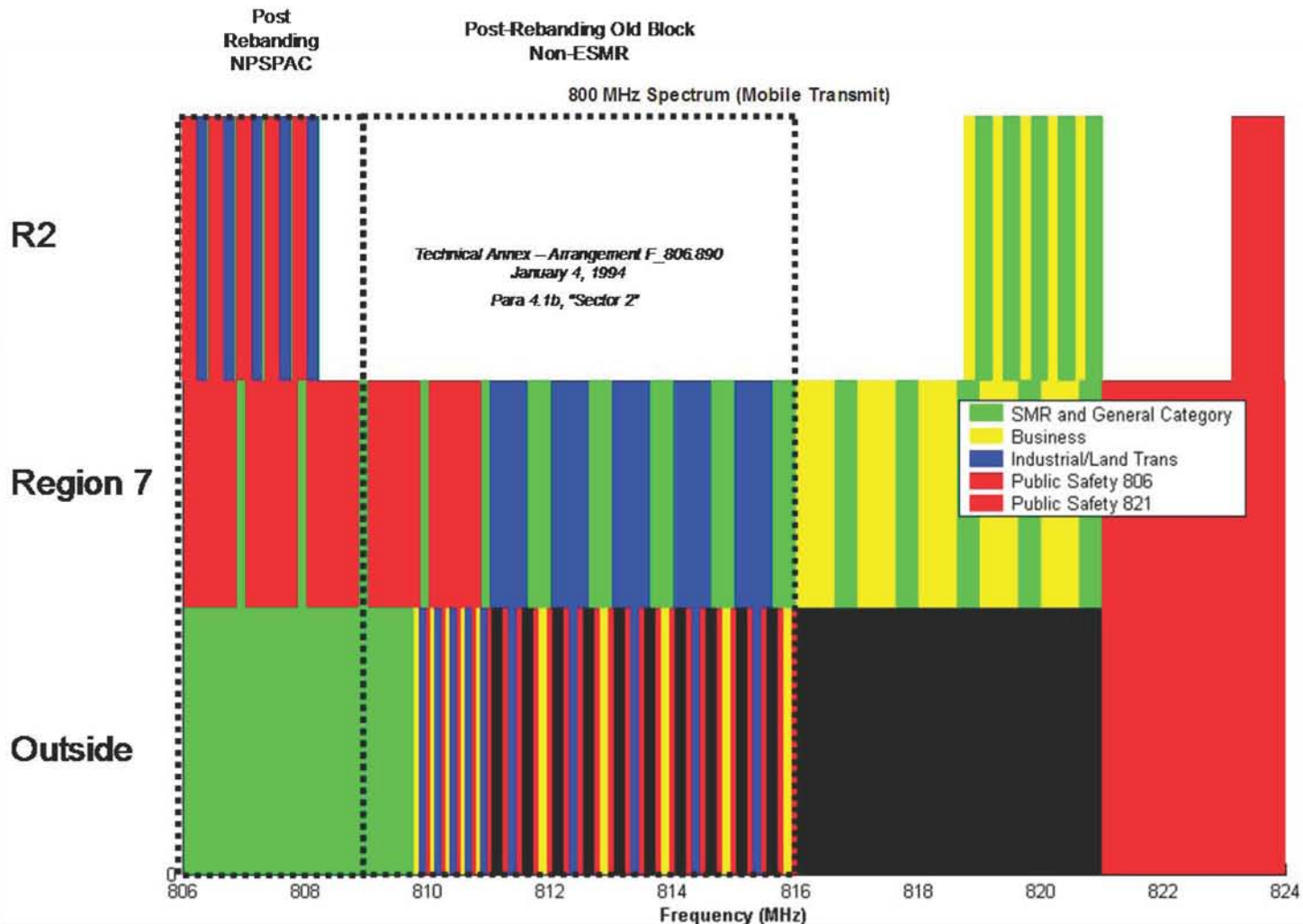


Planning Issues

- In the Order it was stated that in part the 12.5 kHz channelization was intended to simplify coordination.
- In fact it had made it significantly more complex, as all coordination would now have to account for adjacent channel effects

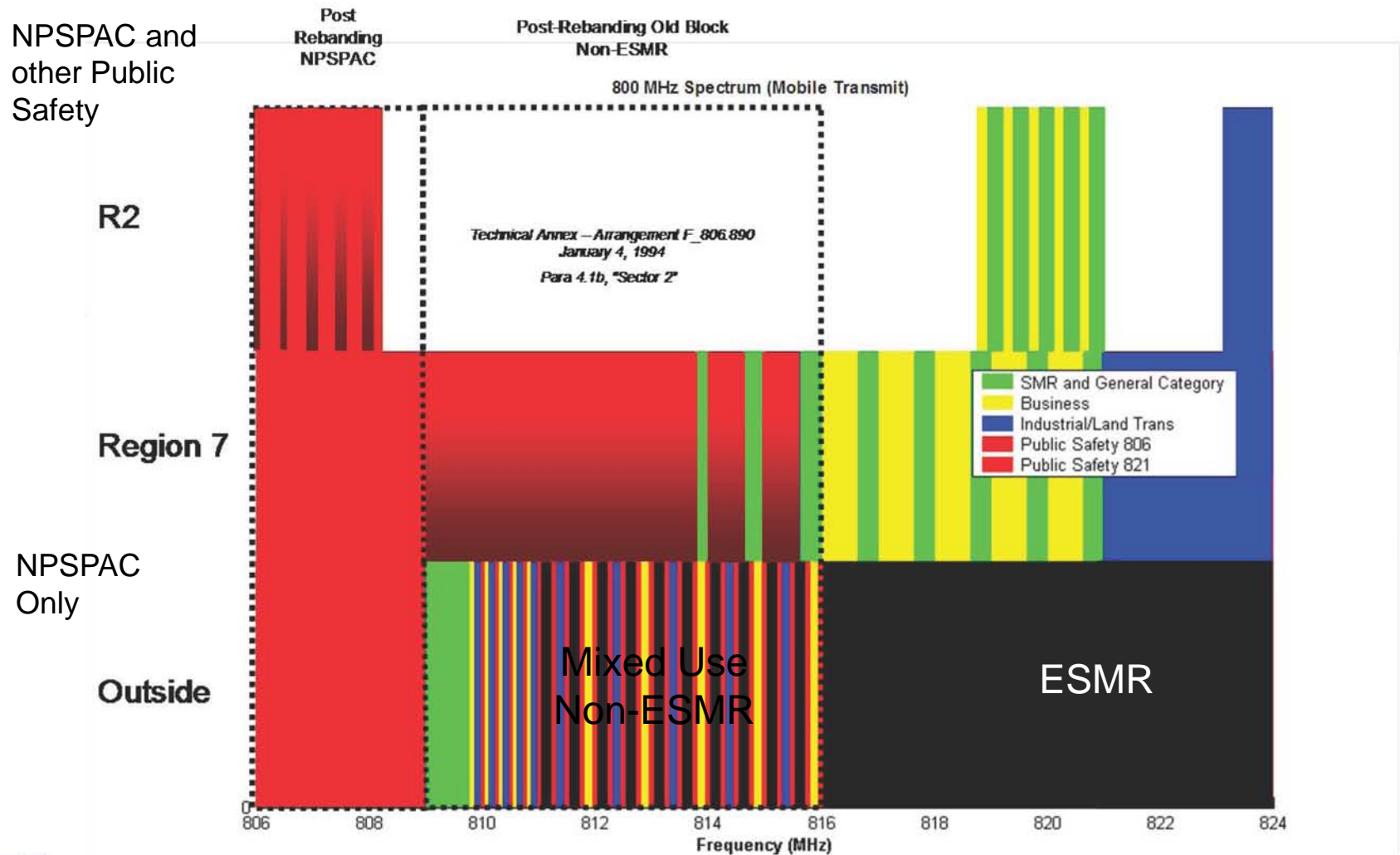


Pre-Rebanding Alignment: Border Region 2, Border Buffer Region 7, and Non-Border Areas





NYS Proposed Regional Alignment: Border Region 2, Border Buffer Region 7, and Non-Border Areas

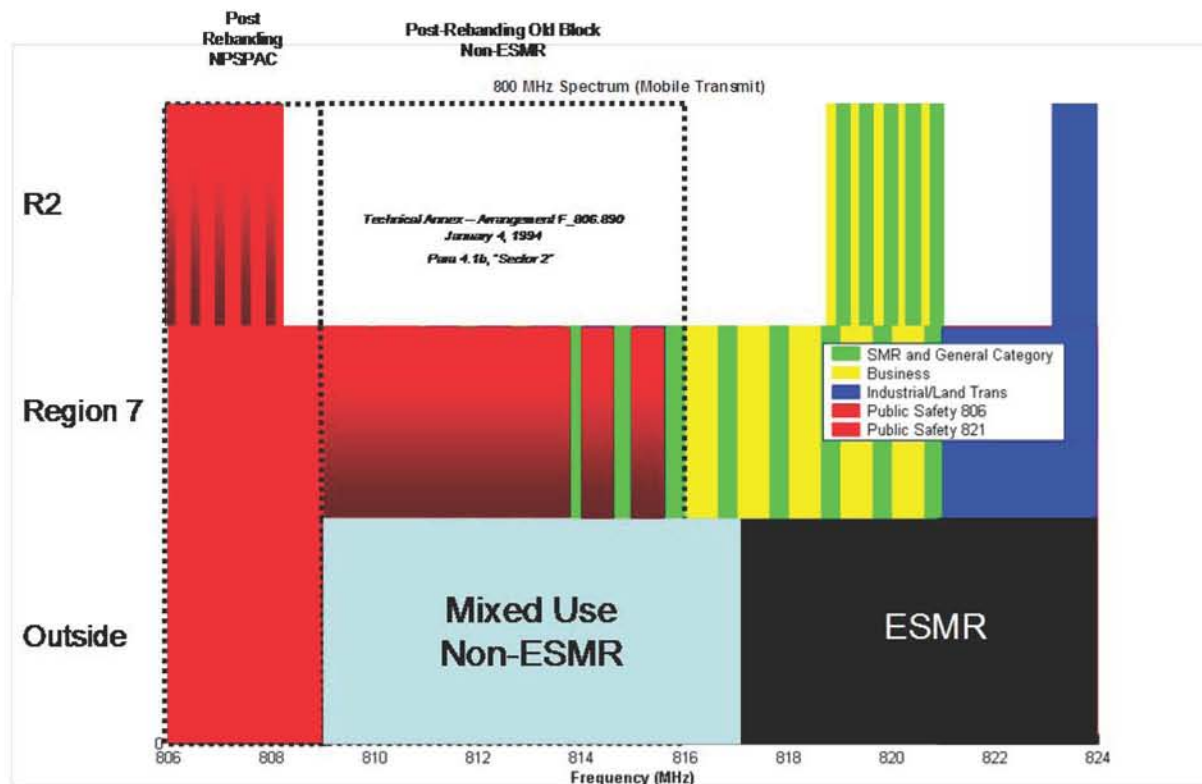




Planning Issues

Prior to rebanding, the Old Block channels required no adjacent channel coordination at all

Under the NYS proposal the only new frequency coordination required after rebanding was at the edge of the Old Block/NPSPAC interfaces



The use of ubiquitous 12.5 kHz channelization requires new coordination at all channel interfaces. Prior to rebanding, the old block channel required no adjacent channel coordination at all





Planning Issues

The table below presents the number of coordination steps required to step through the spectrum allocation

Pre-Rebanding NPSPAC	70 (12.5 kHz)	140	70	260
Pre-Rebanding Old Block	50 (25-kHz)	0	50	
Post-Rebanding NPSPAC (NY)	70 (12.5 kHz)	140	70	265
Post-Rebanding Old Block (NY)	50 (25-kHz)	5	50	
Post-Rebanding NPSPAC	70 (12.5 kHz)	140	70	510
Post-Rebanding Old Block	100 (12.5 kHz)	200	100	





Closing Summary Points

- In order to not lose operational capacity, SWN/NYS needs to either retain the 25-kHz channelization, or receive (2)-12.5 kHz channels (for 2-slot TDMA) in return for a 25-kHz channel
 - This is comparable facility issue, and should not be subject to RPC approval as specified in the FCC Order
- The State requests that the Commission ponder the management of Old Block channel resources in a post rebanded environment
 - If the RPCs are to assume this role this will have impacts upon the deployment flexibility of the spectrum
 - If the RPCs are to assume this role then the Order should clarify this issue and so that all parties understand their Rules, Roles and responsibilities in this matter
 - The above should be crafted such that this is something that is unique to certain border areas,